Idaho Transportation Department Systems Procedures

2025

Version 1.12
Printed: 2025

Table of Contents

List of Chapters

1.0 Introduction

Federal laws and regulations assign state the primary responsibility for developing, updating and adopting a Statewide Highway Functional Classification map which is to define the functionality of existing roads and streets. This manual outlines the concepts, definitions and characteristics of the functional classification system in the state of Idaho and the procedures followed to periodically review and adjust as needed. These procedures conform to the Federal Highway Administration (FHWA) regulations regarding functionally classifying roadway systems and meet the requirements outlined under the *"Procedures"* chapter [Section 4] of their 2023 guidebook.

Functional classification is the process by which streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide. Basically, this processis the recognition that individual roads and streets do not serve travel independently; rather, most travel involves movement through a network of roads. It becomes necessary then to determine how this travel can be channelized within the network in a logical and efficient manner.

Functional classification carries with it expectations about roadway design, including its speed, capacity and relationship to existing and future land use development. Federal legislation uses functional classification in determining to determine eligibility for funding under Federal Aid. Transportation agencies often describe roadway system performance, benchmarks and targets by functional classification. As agencies continue to move towards a more performance-based planning approach, functional classification will be an increasingly important consideration in setting expectations and measuring outcomes for preservation, mobility and safety.

Another important consideration is urban boundaries and how changes to the urban boundaries can affect the overall transportation system. Every 10 years, the United States Census Bureau reviews urban growth. Approximately two years after the decennial census is conducted, the Census Bureau distributes Urban Area Boundary maps. All cities over 5,000 populations must review the potential census boundary changes and either accept them as is or adjust them for transportation planning purposes.

In conjunction with FHWA's Highway Functional Classification Concepts, Criteria and Procedures 2023 Edition guidebook, this guidebook provides additional recommended practicesfor assigning functional classifications and adjusting urban boundaries concerning roadways that Federal, State and local transportation entities own and operate as they are related to the state of Idaho. Many of the concepts, criteria and procedures are similar, if not the same, information found within this manual; ITD recommends, when beginning this process, agencies should rely on both manuals for direction.

In addition to functional classification and urban boundaries, the Idaho Transportation Board is to establish a State Highway System that serves stateside economic interests, movement of products and materials, and statewide mobility. When presented with an adjustment (addition, removal or other system action) to the State Highway System, the Board Subcommittee shall rely upon department staff and recommend their decision to the Idaho Transportation Board.

1.1 Authority

In accordance with 23 Code of Federal Regulations (CFR) 470, the Idaho Transportation Department (ITD) has the primary responsibility for developing and updating Idaho's Statewide Highway Functional Classification map. To complete this task, ITD must collaborate with local officials, Metropolitan Planning Organizations (MPOs) or appropriate federal agencies in the case of areas under federal jurisdiction.

FHWA has final decision authority for Idaho's functional classification and urban boundaries designations. Once approval has been granted by FHWA, ITD will map the results to serve as the official record for Federal-Aid Highways and the basis for designation of the National Highway System (NHS). The most up-to-date State Highway System Functional Classification map and individual Local System Functional Classification map(s) will be posted on the ITD website and distributed to ITD's six (6) districts to be further dispersed to the appropriate parties.

For large urban, the designated MPO is responsible for developing and maintaining the functional classification of roads within their adopted boundaries through coordination with local cities, counties and highway districts. The goal of the MPO is to establish consistent standards in the overall classification process within their area and to maintain effective communication among public agencies responsible for roadways. If your community is within an MPO area, please contact that agency to determine what their process is for updating a specific roadway system classification.

1.2 Highway Systems

The concept of "National Highway System (NHS)" and "State Highway System (SHS)" can be confusing and are easily misinterpreted. What is important to realize about these two (2) terms is that the first describes the *Federal* Road classification, and the second describes the corresponding *State* system. The difference between the two categories is simple: the NHS describes the functionality and geographical characteristics of a road based upon federal guidelines; and the SHS identifies which entity (State or local) is responsible for maintenance and capital expenditures of that road. Be aware that sometimes a route can be both an NHS and a SHS designated route.

Within FHWA's guidebook it previously specified different functional classification categories within urban and rural areas; simplifying the concept of urban boundaries and functional classification to improve consistency. The seven (7) functional classifications each for urban and rural areas created fourteen (14) possible combinations of functional class and area types. The 2013 guidebook stated, *practice of automatically upgrading the functional classification of a rural route that crosses an urban boundary should be phased out and eliminated. Upgrading the functional classification due to an actual change in function should be the operative criteria*. This current manual, as

well as FHWA's guidebook, carries forward the removal of these differences in the Highway Performance Monitoring System (HPMS) code values between urban and rural while still offering separate urban and rural guidance for determining which classification is appropriate.

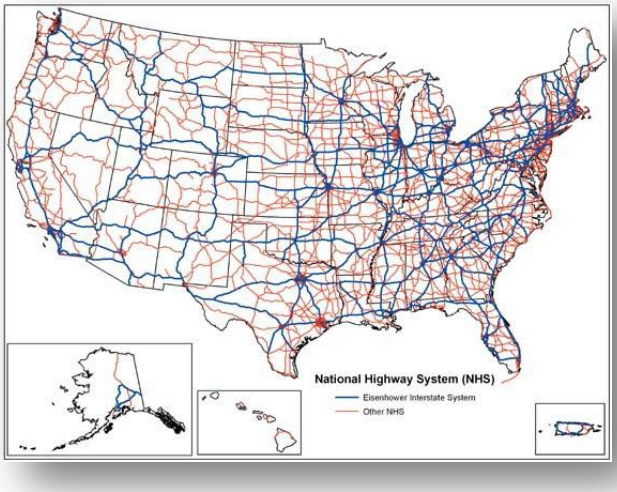
2.0 National Highway System

The NHS is a federal system of public highways as defined by Title 23, United States Code (USC) and designated by the Federal Highways Administration (FHWA); which includes the interstate system as well as other roads important to the Nation's economy, defense and mobility.

The Dwight D. Eisenhower National System of Interstate and Defense Highways consists of routes of highest importance to the Nation; which connect, as directly as practical, principal metropolitan areas, cities and industrial centers. Including important routes into, through and around urban areas, serve the national defense; and to the greatest extent possible, connect at suitable, border points with continental importance into and out of Canada and Mexico.

The NHS consists of roadways important to the nation's economy, defense, and mobility. The NHS includes the following subsystems of roadways (note that a specific highway route may be onmore than one subsystem):

- **Interstate:** The Eisenhower Interstate System of highways retains its separate identity within the NHS.



- **Other Principal Arterials:** These are highways in rural and urban areas which provide access between an arterial and a major port, airport, public transportation facility, or other intermodal transportation facility.
- **Strategic Highway Network (STRAHNET):** This is a network of highways which are important to the United States' strategic defense policy and which provide defense access, continuity and emergency capabilities for defense purposes.
- **Major Strategic Highway Network Connectors:** These are highways which provide access between major military installations and highways which are part of the STRAHNET.
- **Intermodal Connectors:** These highways provide access between major intermodal facilities and the other four subsystems making up the National Highway System.

General Requirements and Regulations for an NHS

The most recent bills are the Infrastructure Investment and Jobs Act signed into law November 15, 2021 and the Fixing America's Surface Transportation Act (FAST Act) was signed into law on December 4, 2015. However, Moving Ahead for Progress in the 21st Century (MAP-21) signed into law on July 6, 2012, adopted a new definition of the NHS.

As of October 1, 2012, the NHS was expanded to include all roads that were at that time functionally classified as principal arterials but not yet part of the System. As a result of MAP-21, the NHS was expanded to about 220,000 miles total with these additions.

Future changes to the NHS of the eligible principal arterial routes after October 1, 2012, will follow procedures currently outlined in 23 CFR Part 470, as amended. FHWA will follow the guidelines of Appendix D to Subpart A, Guidance Criteria for Evaluating Requests for Modifications to the NHS, except that FHWA will not require the route to connect at both ends to other routes on the NHS. Rather, the FHWA will add a principal arterial to the NHS if it connects only at one end.

In addition, FHWA issued a memorandum dated February 23, 2014, stating within, *NHS routes – with the exception of NHS Intermodal Connectors or STRAHNET Connectors – must be classified as principal arterials or above, downgrading segments would require their removal from the NHS (https://apps.itd.idaho.gov/apps/plan/FHWAMemorandum022316.pdf)*. FHWA recommends for ITD staff, MPOs, highway jurisdictions, city/county jurisdictions, and other federal, state or local agency during their functional classification review, take the opportunity while conducting their review to give particular attention to routes that are designated as NHS routes. With that being said, FHWA cannot allow the removal of all newly designated principal arterials from NHS; however, requests will be considered if reasonable and appropriate.

FHWA provided a National Highway System Q&A site to better inform agencies of the new NHS requirements and regulations; especially related to the following:

Design Standards: All NHS designated roadways shall comply with the NHS design standards outlined in ITD's Roadway Design Manual and the AASHTO Green Book Standards for all new constructions and reconstruction of projects (e.g., design speed, traffic volumes, roadway widths, curves, pavement design, bridge design, clear zones, right-of-way and access control, etc.).

FHWA is responsible to ensure NHS design standards have been met and has Full Federal Oversight (FFO) on NHS roadways. This requires FHWA to review and approve Design Exceptions on the expanded NHS system for all NHS projects and when FHWA, which occurs on only a portion of projects. Furthermore, FHWA also has specific guidelines on what constitutes the need for design exception to the standards and how they are studied, documented and approved.

Performance and Asset Management: The federal performance and asset management system created under MAP-21 and FAST Act is heavily focused on preserving and improving the condition and performance of the NHS. Performance measures that all states are required to address include:

- The condition of pavements on the NHS (excluding the Interstate);
- The condition of bridges on the NHS; and
- The overall performance of the NHS (excluding the Interstate).

If more than 10 percent of the total deck area of all bridges on the NHS is located on bridges that have been classified as structurally deficient, ITD will face a minimum spending required for NHS bridges.

ITD is required to develop an Asset Management Plan for the NHS to address risk-based asset management and performance-based management. MAP-21 and FAST Act encourages states to include all infrastructure assets within the NHS corridor right-of-way. This may include such features as bike facilities, culverts, retaining walls, sidewalks and traffic barriers.

Signs: All signs must conform to FHWA rules as established under MAP-21 and FAST Act. The expanded NHS routes are now state "controlled" and fall under the regulation of the federal Highway Beautification Act. All signs on these NHS routes, including outdoor advertising signs (mainly billboards) are subject to the minimum requirements of Board Policy and Idaho Code. Outdoor advertising signs are regulated for size, spacing, zoning and required permit; permits regulated and issued by ITD and/or local agency dependent on the jurisdiction the NHS route falls under.

Data and Monitoring: Given the above requirements, locals will be responsible for collecting and reporting to ITD the variety of data that FHWA is requesting for non-SHS routes on the expanded NHS. This may include, but is not limited to, pavement conditions, traffic volumes, outdoor advertising sales and junkyard control. ITD will collect and report on any NHS routes on the state highway system in addition to gathering the data collected by the locals to report to FHWA.

Project Selection: Federal law gives ITD and other states the authority for selecting projects on the NHS in consultation with local officials. This potentially gives ITD a larger role in the selection of local road projects on the expanded NHS.

Project Funding and Eligibility: NHS mileage in a state does not affect the total amount of federal funding the state receives or the distribution of funding among programs. For example, more NHS mileage will not increase the amount of ITD's funding dedicated to the National Highway Performance Program (NHPP). Thus, inclusion of a route on the NHS will not provide local governments and/or metropolitan planning areas with additional funding opportunities for newly designed NHS routes, as Idaho Code and ITD Board Policy sets the allocation formulas allocated to locals.

2.1 NHS Modification Review Criteria

Start by examining the reference material going from general to specific. Look over the statewide maps and urban area maps to see if there are obvious and apparent coding errors. For the purposes of this review, the types of system changes are separated into two categories: **"corrections"** and **"additions/deletions"**.

Corrections, especially those that are obvious coding errors when compared to State/FHWA Division official records, will not require multi-agency coordination or official memorandum to FHWA Headquarters. Basically, minor changes are those revisions that identify map coding inconsistencies between the official SHS or NHS maps and records maintained by the state and previously approved by FHWA. These include corrections to any of the following:

- Connector description;
- Connector mileages;
- Incorrect route names, numbers, or wrong route shields;
- Future NHS that is now open to traffic or partially open to traffic;
- NHS route alignment that differs from official records maintained by the state and previously approved FHWA ;
- Miscoding of the SHS or NHS routes; and
- STRAHNET coding that differs from the official STRAHNET website marinated by the Department of Defense's Military Traffic Management Command Center.

Additions/Deletions will require coordination with the appropriate agency and necessitate formal approval from the FHWA Headquarters' office. These include:

- Adding new NHS connectors;
- Deleting NHS connectors;
- Adding a new route to the NHS;
- Realignment of an NHS route; and
- Adding STRAHNET route that is not currently displayed on the official STRAHNET website marinated by the Department of Defense's Military Traffic Management Command Center.

Below outlines the process identified by FHWA on how to add or delete routes on the NHS. It is very important that readers refer to the correct maps that have NHS routes designated.

NHS Mainline:

Compare the official NHS maps (see Appendix A). Make note of the type of update, whether it is a "correction" or an "addition/deletion".

Corrections:

- Is the alignment of the route correct;
- Are the expanded NHS routes fully or partially complete; and/or
- Does the route connect to at least one end of an existing NHS pre-MAP-21 route?

Addition/Deletion:

Explain how the proposed NHS addition or deletion enhances the national transportation characteristics of the NHS. Examples can include justification in the context of:

- Does the route alleviate congestion;
- Does the route fill the gap in the NHS system;
- Does the route redirect traffic from city center to proposed bypass;
- Does the route impact the connectivity of existing NHS routes;
- Does the route provide inconsistency with the needs and priority of the community or region;
- [For deletion] is there an existing parallel NHS route that carries traffic and provides continuity; and/or
- Does the route comply with Appendix D of Subpart A of 23 CFR 470?

NHS Intermodal Connectors:

Similarly, compare the official NHS Intermodal Connectors and ask yourself, is the connectors list complete and do the Intermodal connectors meet minimum criteria? *(see summary below of such criteria)*

Commercial Aviation Airports

- Passengers – scheduled commercial services with more than 250,000 annual enplanements.
- Cargo – 100 trucks per day in each direction on the principal connecting route, or 100,000 tons per year arriving or departing by highway mode.

Ports

- Terminals that handle more than 50,000 TEUs per year or other units measured that would convert to more than 1000 trucks per day in each direction (trucks are defined as large ingle –unit trucks or combination vehicles handling freight).
- Bulk commodity terminals that handle more than 500,000 tons per year by highway or 100 trucks per day in each direction on the Principal Arterial.
- Truck/Rail
  - 50,000 TEUS per year or 100 trucks per day in each direction on the principal connecting route or other units measured that would convert to more than 100 trucks per day in each direction.
- Pipelines
  - 100 trucks per day in each direction on the principal connecting route

- Amtrak
  - 100,000 passengers per year (entrainments or detrainments); Joint Amtrak,intercity bus and public transit terminals should be considered based on thecombined passenger volumes.
- Intercity Bus
  - 100,000 passengers per year (boarding and de-boarding)
- Public Transit
  - Stations with park-and-ride lots with more than 500 vehicle spaces or 5,000 dailybus or rail passengers with significant highway access; a major hub terminal that provides for the transfer of passengers among several bus routes.

Are there connectors that should be added or deleted?

Is the connector mileage correct?

If the mileage is incorrect, provide documentation and maps showing the correct mileage. Annotate changes on the connector printout.

On the official connector's printout, are the connector descriptions correct?

Correct descriptions as needed. Mark the connector's listing and/or provides supplemental documentation stating the connector location and termini.

2.2 Procedural Tasks

Specifically, in 23 CRF 470.109(a) proposals for NHS modifications must include:

- A route description;
- A statement of justification;
- Statements of coordination with adjoining States on State-line connects, with responsible local officials, and with officials of areas under Federal jurisdiction;
- A statement of how the proposal will enhance the national transportation characteristics of the NHS; and
- Must follow the criteria listing §470.107 and consider the criteria contained in Appendix D to Subpart A of Part 470.

Guidelines for NHS Modification Submittals

- Requests for adding and deleting a segment(s) from the NHS requires a formal submission to FHWA (see below for exceptions involving "technical corrections" and "functional classification downgrades".

- Relying on the ITD National Highway System Change Request form (Appendix A), ITD District staff shall initiate and collaborate, when appropriate, with all local governments for all proposed changes to the NHS network.
- **ITD-DES Planning Services** is responsible for compiling all proposed changes submitted. All requests should be put in writing to the FHWA Division Office.
- The submittal shall include **route description,** a **statement of justification,** and **statements of coordination** with adjoining States on State-line connections, with responsible local and regional officials, and with officials of areas under Federal jurisdiction.
- The FHWA Division will review, summarize, and transmit the request with Division recommendation to FHWA-HQ. The initial letter from the State should be included, along with any attachments (i.e., maps, GIS files, documentation of coordination, etc.).
- FHWA-HQ typically reviews requests for response within 30 days.
- The Director, Office of Human Environment, will notify the Division Office of the approved changes. The FHWA Division will inform ITD, in writing, of the approved NHS changes. FHWA-HQ updates the official NHS map record and when applicable updates the officialNHS Intermodal Connectors List.

Route Description Documentation

For the proposed NHS addition or deletion, at minimum, please provide the following information: *(See attached NHS Change request form)*

- Route name
- Route number
- Segment Code (if available)
- **Beginning** mile point to **End** mile point (or **from** intersecting route / **to** intersecting route)
- Segment length
- Jurisdictional identifier (City / County / MPO)
- Map locating subject segment
  Accompanying GIS Shapefile of the subject segment(s) – Planning Services Section will maintain the official NHS for ITD and provide shapefiles for submittal purposes.

When submittal contains numerous NHS changes, provide the attached "Proposed NHS Changes" spreadsheet listing the proposed NHS changes for your area. Here are fictional examples under the minimum required column headings:

Table 2.1: Proposed NHS Changes - Example

Route_ Name	Segcode	BMP_Begin_ St. Name	EMP_End_ St. Name	Length	Jurisdiction	Action	Justification
W Drive	001234	0	2	2	City Name	Add	Alleviates Congestion
X Drive	001235	6	7	1	MPO Name	Add	Enhances NHS Connectivity
Y Drive	001236	3	7	4	County Name	Remove	NHS traffic served by parallel NHS Route
Z Drive	001237	0	5	5	ITD District	Remove	Reclassified as a minor arterial

Statement of Justification Documentation

Explain how the proposed NHS addition or deletion enhances the national transportation characteristics of the NHS. Examples can be included in the context of:

- Alleviating congestion
- Filling a gap in the NHS system
- Redirecting traffic from the city center to the proposed bypass
- Enhancing NHS connectivity in the local area
- Impacts on existing NHS routes
- Inconsistency with the needs and priorities of the community or region

Coordination Documentation with Local and Regional Officials

ITD District staff shall coordinate the proposed NHS change with the local and regional officials and, when applicable, with adjoining states. The coordination process should be summarized in writing (short description or narrative) with supporting documentation. Examples of acceptable documentation include:

- MPO resolutions
- MPO or local official letter to ITD stating support
- Email from MPO or local official to ITD stating support

Technical Correction to the NHS Map Record

Minor updates or technical corrections to the FHWA Official Map record do not need local or regional official coordination or formal submittal from ITD to FHWA.

Technical Corrections, especially obvious coding errors when compared to State/FHWA Division official records will not require multi-agency coordination or official memorandum to FHWA-HQ. Minor changes are those revisions that identify map coding inconsistencies between the official NHS maps and records maintained by ITD and previously approved by FHWA. These include corrections to any of the following:

- Incorrect route names, numbers or wrong route shields
- Future NHS that is now open to traffic or partially open to traffic
- NHS route alignment that differs from official records maintained by ITD and previously approved by FHWA
- Miscoding of NHS routes
- Intermodal connector description
- Intermodal length
- Strategic Highway Network (STRAHNET) coding that differs from the official STRAHNET record maintained by the Department of Defense's Surface Deployment and Distribution Command.

Deletion as Result of Change in Functional Classification from Principal Arterial

Per 23 CFR 470.107(b), the National Highway System shall consist of "***interconnected urban and rural principal arterials*** and highway…"

Routes on the NHS, with the exception of Intermodal Connectors and STRAHNET Connectors, much be functionally classified as a principal arterial. If an NHS route is reclassified to minor arterials or less, then upon notification from ITD, FHWA will delete the segment from the NHS. Though a formal submittal is not required, the Office of Human Environment needs sufficient map/GIS documentation to properly locate and remove the segments from the NHS official records. ITD shall provide the following information to their FHWA Divisions Office for transmittal to FHWA-HQ:

- Route name
- Route number
- Segment Code (if available)
- **Beginning** mile point to **End** mile point (or **from** intersecting route / **to** intersecting route)
- Segment length
- Jurisdictional identifier (City / County / MPO)
- Map locating subject segment
  Accompanying GIS Shapefile of the subject segment(s) – Planning Services Section will maintain the official NHS for ITD and provide shapefiles for submittal purposes.

When submittal contains numerous NHS changes, provide the attached "Proposed NHS Changes" spreadsheet listing the proposed NHS changes for your area. Here are fictional examples under the minimum required column headings:

Table 2.2: Proposed NHS Changes – Reclassification Example

Route_ Name	Segcode	BMP_Begin_ St. Name	EMP_End_ St. Name	Length	Jurisdiction	Action	Justification
W Drive	001234	0	2	2	City Name	Delete	Reclassified as local street
X Drive	001235	6	7	1	MPO Name	Delete	Reclassified as a collector street
Y Drive	001236	3	7	4	County Name	Delete	Reclassified as a minor arterial

Strategic Highway Network (STRAHNET) Modifications

The STRAHNET includes routes and connectors to major DOD installations or seaports important for national defense mobility. The STRAHNET is a subset of the NHS and follows previously noted "Guidelines for NHS Modifications Submittals," with added coordination with the Department of Defense's Surface Deployment and Distribution Command Transportation Engineering Agency (SDDCTEA). FHWA coordinates with the SDDCTEA to approve all STRAHNET changes.

Additional Notes about the NHS Record

The official National Highway System routes are depicted:

- On the PDF maps posted to http://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps/
- In the NHS Interactive Map Viewer located at http://hepgis.fhwa.dot.gov/. Users can pan and zoom to view NHS segments in greater detail.
- In the NHS Shapefile posted to http://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps/. (When puttingtogether an NHS submittal package to require System changes, as part of the review process, if ITD plans to compare the State's GIS record against the FHWA NHS shapefile,please make sure to download the latest NHS Shapefile from the link above.)

3.0 Functional Classification

This section of the manual presents the concepts underlying the functional classification of roadways, namely access and mobility, and describes where different categories of roadways fall within a continuum of access vs. mobility. In addition to access and mobility, other factors to help determine the proper category to which a particular roadway belongs – such as, trip length, speed limit, volume, vehicle mix and surrounding land use – are discussed in this chapter.

Remember, the process of determining the correct functional classification of a particular roadway is as much an art as it is a science.

3.1 Concepts

Most travel occurs through a network of interdependent roadways, with each roadway segment moving traffic through the system towards destinations. The concept of system classification defines the role that a particular roadway segment plays in serving this flow of traffic through the network. Roadways are assigned according to the character of travel service each roadway provides.

Access versus Mobility

Roadways serve two primary travel needs: access/egress from specific locations and travel mobility.

Roadways that provide a high level of mobility are generally called "arterials"; those that provide a high level of accessibility are called "locals"; and those that provide a more balanced blend of mobility and access are called "collectors".

While most roadways offer both "access to property" and "travel mobility" services, it is the roadway's primary purpose that defines the classification category to which a given roadway belongs.

Other Important Related Factors

The distinction between "mobility and accessibility" is important in assigning classifications to roadways; however, there are a few additional factors to consider; for a more detailed explanation of each factor, refer to FHWA's guidebook with regards to the list below.

- Efficiency of Travel
- Collectors
- Access Points
- Speed Limit
- Route Spacing
- Usage (Annual Average Daily Traffic (AADT) Volumes and Vehicle Miles of Travel (VMT))
- Number of Travel Lanes
- Regional and Statewide Significance

In growing urban areas, arterial roadways often experience an ever-increasing number of driveway access points. This high degree of accessibility decreases mobility. To address this issue and restore the carrying capacity of through traffic on these roadways, transportation agencies apply access management principles, such as driveway consolidation and median installations. In contrast, roadways classified as "local" provide direct access to multiple properties.

A route is a linear path of connected roadway segments, all with the same classification designation. For example, the roadways along a given arterial route may – and often do – comprise of multiple named roadways or state numbered facilities. Similarly, different segments of a given named roadway, or even more likely a given state numbered route, may belong to different classification categories, depending on the character of travel service that each segment provides.

When determining the classification of a given roadway, no single factor should be considered alone. For example, SH-55 runs through the heart of Meridian. Within the city, the roadway has many intersecting roadways, provides direct access to several densely developed commercial and residential properties and has speed limits as low as 35 mph in some areas. However, becausethe roadway is one of the two most direct north-south routes within the Treasure Valley and a large percentage of its traffic consists of short distance trips; the roadway is best classified as a collector within the urban area. Outside the urban area to the north, the speed remains the same, yet travel distance is longer distance trips. Then the road should be considered an arterial.

Table 3-1 summarizes FHWA's interpretation of the relationship between the factors previously described and the three broad categories of functional classification.

Table 3.1: Relationship between Functional Classification and Travel Characteristics							
Functional Classification	**Distance Served (and Length of Route)**	**Access Points**	**Speed Limit**	**Distance between Routes**	**Usage (AADT and DVMT)**	**Significance**	**Number of Travel Lanes**
Arterial	Longest	Few	Highest	Longest	Highest	Statewide	More
Collector	Medium	Medium	Medium	Medium	Medium	Medium	Medium
Local	Shortest	Many	Lowest	Shortest	Lowest	Local	Fewer

Source: FHWA

System Continuity

A basic principle of the functional classification network is continuity – a roadway of higher classification should not terminate at a single roadway of lower classification.[1] Generally speaking, arterials should only terminate at other arterials; however, there are exceptions to this guideline. Arterials can terminate at very large regional traffic generators or can connect to multiple parallel roads of lower classification that, together, provide the same function and capacity as an arterial.

Exceptions to the "connectivity" guidelines exist. There are locations where an arterial can "dead end" and not connect to another arterial. A common example is when an arterial terminates at a regionally significant land use (such as an airport or military installation). Another exception is a collector that serves a major residential community and, for topological or other constraining reasons, does not connect at the end to another similarly or higher classified roadway

3.2 Classification Criteria

Functional Classification Conversion Table			
Old FC Code	FC Description	Map Color	New FC Code
1, 11	Interstate		1
12	Other Freeways or Expressways		2
2, 14	Other Principal Arterials		3
6, 16	Minor Arterial		4
7, 17	Major Collector		5
8	Minor Collector		6
9, 19	Local		7

The previous subsection provided a general overview ofthe system classification categories of arterial, collector and local. This section breaks these categories down further to stratify the range of mobility and access functions that roadways serve and how the physical characteristics and official designation of some roadways dictates the classification of certain roadways.

In 2008, FHWA reduced the number of functional classes from twelve to seven classes. The table to the right is a conversion table showing how the old and new codes correspond.

[1] A higher classified road can "split" its traffic between two (2) lower-level roads with different levels of access and mobility.

Determining the classification of roadways is a process by which public streets and highways are grouped into classes according to the character of service they are intended to provide. Generally, highways fall into one of three broad categories:

Arterials

Arterials serve countywide, statewide or interstate travel, linking cities and large towns to an integrated highway network. As a general rule of thumb, speeds on the arterial systems are relatively high, although speeds may be lower through urban areas. Volumes of traffic typically range from thousands to tens of thousands of vehicles per day. Arterials are further divided between 'principal' and 'minor' arterial classifications.

Collectors

Collectors link smaller towns, villages, neighborhoods and major facilities to the arterial network. Traffic is collected from local residential roads and delivered to the nearest arterial. Daily traffic volumes generally range in the thousands. Collectors are divided between 'major' and 'minor' collector classifications.

Local

Local roads provide direct access to residential neighborhoods, local businesses, agricultural properties and timberlands. Volumes typically range from less than one hundred to possibly thousands of vehicles per day. Roads not classified as arterials or collectors are considered local roads.

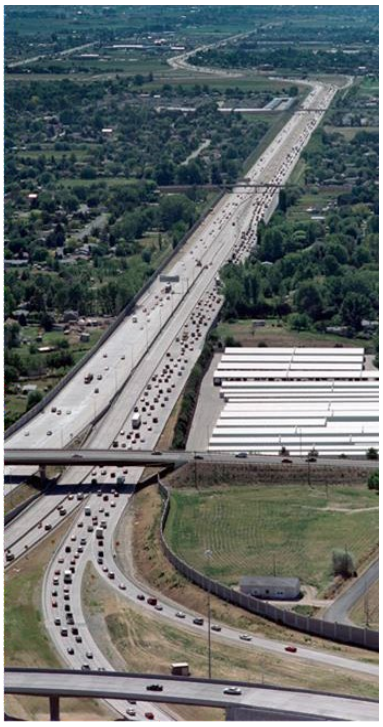
Definitions and Characteristics

While arterials, collectors and locals span the full range of roadway functions, the system classification scheme uses additional classification categories to describe these functions more precisely. Distinctions between access-controlled and full-access roadways; the urban and rural development pattern; and subtleties between "major" and "minor" sub-classification are key considerations when determining the category to which a particular roadway belongs.

A. Arterials: Interstates, Other Freeways and Expressways, Other Principal Arterials and Minor Arterials

Interstates

Interstates, also known as *Principal* Arterials, are the highest classification of arterials and were designated and constructed with mobility and long-distance travel in mind through a series of continuous routes that have trip lengths and volumes indicative of substantial statewide or interstate travel. This classification of highways designated as interstates "I" in Idaho include: I-15, I-84, I-86, I-90 and I-184.



Interstate System: Boise, Idaho

- *Limited Access*
- *Divided Highways*
- *High-Level Speeds*
- *Link Major Urban Areas*
- *Abutting Land Uses Not Directly Served*

Access control is a key factor in the realm of functional classification. All Interstates are "limited access" or "controlled access" roadways. The use of the word "access" in this context refersto the ability to access the roadway and not the abutting land use – these roadways provide no "access" to abutting land uses. Access to these roadways is controlled or limited to maximize mobility by eliminating conflicts with driveways and at-grade intersections that would otherwise hinder travel speed.

Access to these roadways is limited to a set of controlled locations at entrance and exit ramps. Travelers then use much lower functionally classified roadways to reach their destination.

Determining the functional classification designation of many roadways can be somewhat subjective but with interstate category of arterials, there is no ambiguity; roadways in this classification category are officially designated as Interstates by FHWA.

Other Freeways and Expressways

Freeway/Expressway System: Northern Idaho Area

- *Purchased Access Control*
- *Barriers*
- *Limited on/off Ramps*
- *Limited At-Grade Intersections*
- *Maximum Mobility*
- *Abutting Land Uses typically not Directly Served*

Another category of principal arterials are identified as "Other Freeways and Expressway", these roads must be divided highways with full (freeway) or partial (expressway) control-of-access and primarily serve through-traffic and majorcirculation movements within federally defined urban areas.

While there can be regional differences in the use of the terms "freeway" and "expressway", for the purpose of functional classification, directional travel lanes usually separated by some type of physical barrier; their access and egress points are limited to on- and off-ramp locations or a very limited number of at-grade intersections.

Roadways in this classification category look very similar to interstates. Like interstates, these roadways are designed and constructed to maximize their mobility function, and abutting land uses are not directly served by them.

Other Principal Arterials (OPAs)

These highways provide long-distance connections but do not fit the two arterial categories above. These roadways serve major centers of metropolitan areas, provide a high degree of mobility and can also provide mobility through rural areas, as well as, urban areas. Unlike their access-controlled counterparts, abutting land uses can be served directly.

OPA System: Middleton, Idaho

- *Connecting Major Centers of Metropolitan Areas*
- *High Degree of Mobility*
- *Ability to Directly Service abutting Land Use*
- *Provides Multiple Access Opportunities*

For the most part, roadways that fall into the top three functional classification categories (Interstate, Other Freeways & Expressways and Other Principal Arterials) provide similar service in both urban and rural areas. The primary difference is, there are usually multiple arterial routes serving particular urban areas; radiating out from the urban center to serve the surrounding region. In contrast, an expanse of a rural area of equal size would be served by a single arterial.

Overall, **arterials** are characterized by the following criteria:

- Serves the major traffic movements within the urbanized area such as between the central business districts and the outlying residential area, between major inter-city communities, or between major suburban centers;
- Carries a high proportion of the total urban area travel on a minimum of mileage;
- Serves a major portion of the trips entering and leaving the urban area, as well as the majority of the through traffic desiring to bypass the central city;
- Provides continuity for all arterials which intercept the urban area;
- Serves the highest traffic volume corridors and the longest trip desires;
- May carry intra- and inter-city buses; and
- Includes, but not limited to, most fully or partially controlled access facilities.

Minor Arterial

Minor arterials provide service for trips of moderate length, serve geographic areas that are smaller than their higher arterial counterparts and offer connectivity to the higher arterial system. Through a series of routes, they are expected to provide relatively high, overall travel speeds with minimum interference to through movement. Minor arterials interconnect and augment the higher

Minor Arterial System: Southern Idaho

- *Trips of Moderate Length*
- *Offers Connectivity to Higher Road Classification*
- *A Reduced Level of Mobility*

arterial system, provide intra-community connectivity and may carry local bus routes. They should be identified and spaced at intervals consistent with population density, so that all developed areas are within a reasonable distance of a higher-level arterial.

Minor arterials are characterized by the following criteria:

- Link cities, large towns and other traffic generators (i.e., major resort areas) that are capable of attracting travel over long distances;
- Integrate inter-state and inter-county services;
- Spacing consistent with population density so all developed areas are within a reasonable distance from the higher-level arterial system; typically, varying from 1/8 to 1/2-mile in the Central Business District (CBD) areas and 2 to 3-miles in the suburban fringes – normally, not exceeding 1-mile in fully developed areas;
- Provide more land access than the higher-level arterials without penetrating identifiable neighborhoods; thus, providing urban connections for rural collectors;
- Provide service corridors with trip lengths and travel densities greatest than those served by rural collector or local systems; and
- Likely to carry intra- and inter-city buses.

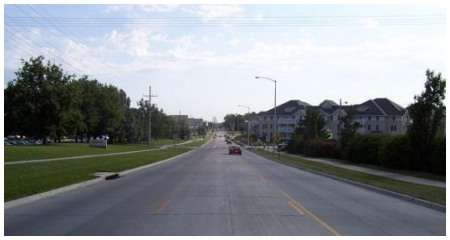
B. Major and Minor Collectors:

In order to be considered eligible for federal funding, a roadway must be classified as a collector or a higher level of mobility. Collector streets provide both land access and traffic circulation for residential, commercial, and industrial areas. Their access function is more important than that of arterials, and unlike arterials, their operation is not always dominated by traffic signals. Collectors are broken down into two categories: Major Collectors and Minor Collectors. Collectors generally serve intra-county travel (rather than statewide) and constitute those routes on which (independent of traffic volume)predominant travel distances are shorter than on arterial routes; consequently, more moderate speeds may be posted.

Major Collector System: Boise, Idaho

- *Traffic Circulation*
- *High-Moderate Speeds*
- *Multiple Land Use Access*
- *Greater Travel Distances*
- *Signalized Intersections*

The distinctions between major collectors and minor collectors are often subtle. Generally, major collector routes are longer in length, have lower connecting driveway density, have higher speed limits, are spaced at greater intervals, have higher annual average daily traffic (AADT) volumes and may have more travel lanes than their minor collector counterparts.



Minor Collector System: Boise, Idaho

- *Additional Intercity Traffic Circulation*
- *Low Speeds*
- *Signalized Intersections and/or Stop Signs*
- *Reduced Travel Distances*

Careful consideration should be given to these factors when assigning a major or minor collector designation. In rural areas, the AADT and spacing may be the most significant designation factors. Since major collectors offer more mobility and minor collectors offer more access, it is beneficial to reexamine these two fundamental concepts of functional classification. Overall, the total mileage of major collectors is typically lower than the total mileage of Minor Collectors, while the total collector mileage is typically 1/3 of the local roadway network.

Major collectors are characterized by the following criteria:

- Serves both land access and traffic circulation in higher density residential, and commercial/industrial areas;
- Penetrates residential neighborhoods, often for significant distances;
- Distribute and channel trips between local roads and arterials, usually over a distance of greater than ¾ of a mile;
- Operating characteristics include higher speeds and more signalized intersections;
- Connectivity of larger towns to rural areas not directly served by a higher system and to other traffic generators of equivalent intra-county importance such as consolidated schools, shipping points, county perks and important mining and agricultural areas; and
- May carry intra-city bus service.

Minor collectors are characterized by the following criteria:

- Serves both land access and traffic circulation in lower density residential and commercial/industrial areas;
- Penetrates residential neighborhoods, often only for a short distance;
- Distributes and channels trips between local roads and Arterials, usually over less than ¾ of a mile;
- Operating characteristics include lower speeds and fewer signalized intersections;
- Within rural areas, spaced at intervals, consistent with population density, to collect traffic from local roads and bring all developed areas within reasonable distance of a collector; while providing service to smaller communities not served by a higher-class facility; and
- May carry an intra-city bus service.

C. Local Roads

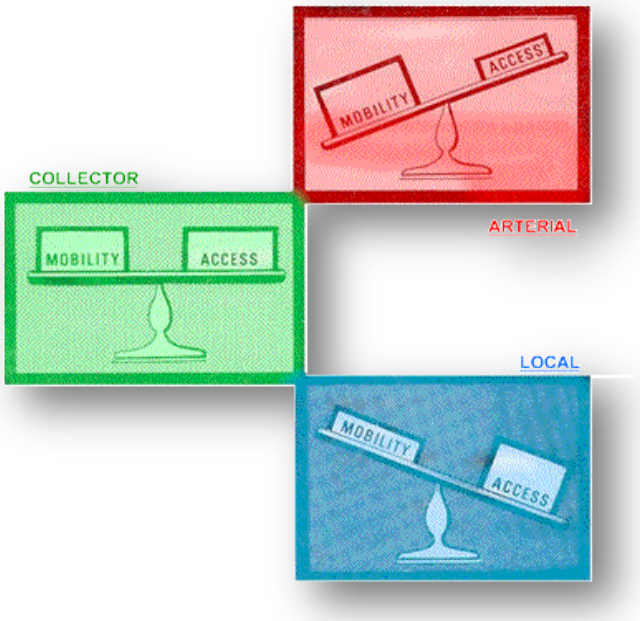
Local Road System: Boise, Idaho

- *Low Speeds*
- *Reduced Rights-of-Way*
- *Residential Areas*
- *Minimal Improvements*
- *Direct Access*

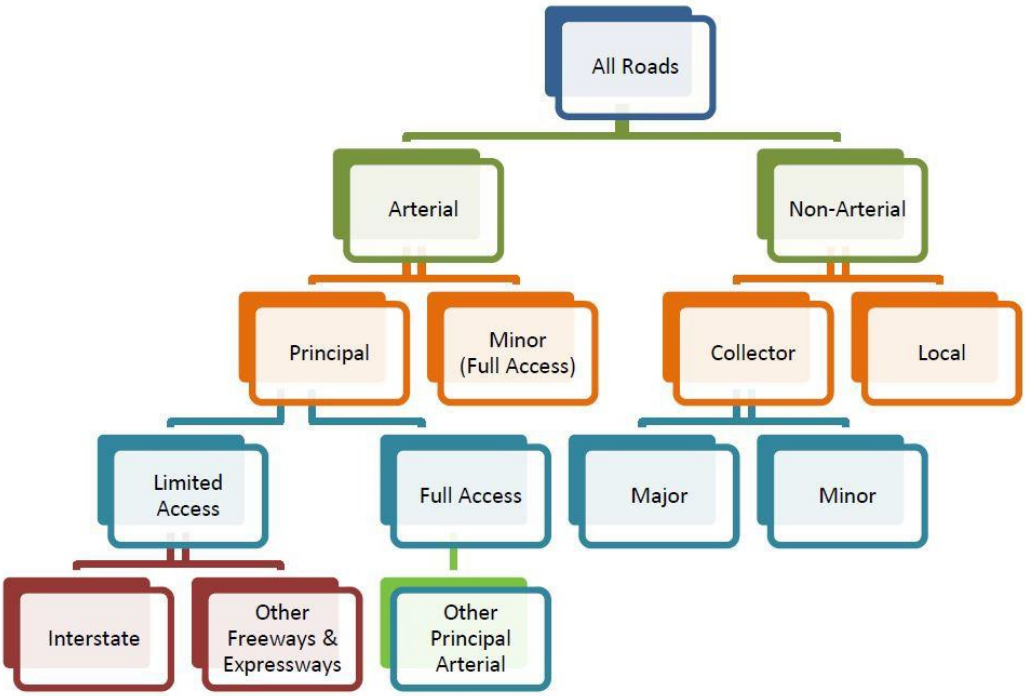
Locally classified roads account for the largest percentage of all roadways in terms of mileage. They are not intended for use in long-distance travel due to their direct access to abutting land and provide connections to the higher order systems. Service to through-traffic movements is deliberately discouraged.

Local roads are characterized by the following criteria:

- Comprises all facilities not on a higher system;
- Provides direct access to abutting land and to higher order facilities;
- Lowest level of mobility; and
- Discourages through traffic and generally does not permit bus traffic.



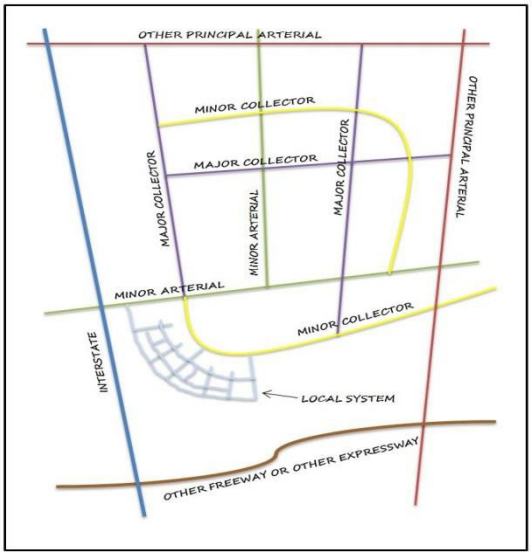
Putting It All Together



Source: FHWA and CDM Smith

The functional classification system groups roadways into a logical series of decisions based upon the character of the travel service they provide (as shown above).

While this manual emphasizes the importance of function and service over the urban/rural distinction when classifying roads, the classification process is still influenced by the intensity and distribution of land development patterns. Classification of roadways within an urban area is typically guided by the local comprehensive planning and design process, or the fundamental principles of roadway functional classification. In comparison, rural development patterns are often more diverse, if not less orderly, thereby making the functional classification determination of some rural roadways more challenging.



When comparing urban and rural areas, perhaps the most relevant characteristic is the density of the roadway network. Even with a cursory view of a map of an urban area's roadway network, the functional classification of many roadways can be discerned due to the differences in roadway size. In contrast, the classification of the roadway network in many rural areas is less easily apparent, primarily due to the relatively consistent roadway spacing.

Nevertheless, classifications should be assigned based on actual functional criteria, rather than the location of the roadway within an urban or rural context.

3.3 Good Practices

The following subsection discusses and recommends a series of good practices to follow in order to keep the functional classification of its roadways as accurate as possible.

Ongoing Maintenance

ITD is in charge of ensuring that the functional classifications of roadways are kept up-to-date; maintaining an inventory, if you will. FHWA recommends that updates to the functional classification system are conducted as the roadway system and land use developments change; however, encourages reviews and considerations to the State Highway System should be reviewed every 10-years to coincide with the decennial census and the adjusted urban boundary update cycle.

This maintenance process involves ongoing coordination with local planning partners to identify roadways that require changes to their functional classification, due to changes in transportation network and/or land use patterns.

Actively maintaining the functional classification attributes of roadways will reduce the level of effort needed for periodic updates. While working on various initiatives such as long-range planning activities and project programming and development, issues related to the functional classification should be kept in mind. Useful questions to ask are the following:

- *Have new significant roadways been constructed that may warrant Arterial or Collector status?*
- *Have any previously non-divided Principal Arterial roadways been reconstructed as a dividedfacility?*
- *Has any new major development (such as an airport, regional shopping center or major medical facility) been built in a location that has caused traffic patterns to change?*
- *Has there been significant overall growth that may have caused some roadways to serve more access or mobility needs than they have previously?*
- *Have any Arterial or Collector roadways been extended or realigned in such a way to attract more through trip movements?*
- *Has a particular roadway experienced a significant growth in daily traffic volumes?*

To assist transportation planners responsible for determining the functional classification of roadways, the FHWA guidebook offers a helpful tool that can make the classification process of classifying "borderline" roadways a bit easier. Table 3-5 and Table 3-6 illustrates the range of lane width, shoulder width, AADTs, divided/undivided status, access control and access points per mile

by functional classification categories; while also presenting guidelines for mileage and VMT ranges for Federal functional classifications of roads, based on an analysis of HMPS data and are adjusted to represent reasonable ranges.

When new local roads get added to the State's roadway inventory databases, as a good practice, roadways should be evaluated on how closely the roadways fit within each functional classification category based on the percentage guidelines found in Tables 3-5 and 3-6. If any significant differences are found, steps may be taken to either correct or explain them. However, this refinement process should not be conducted simply to keep adding or removing roadways until certain percentage guidelines are met. Bearing in mind that this process is as much art as science, it should still be as systematic, reproducible and logical as possible.

Final Considerations

In many instances, assigning a classification to a roadway is straightforward, especially for interstates and locals; however, there is flexibility when deciding between adjacent classifications. To assist transportation planners responsible for determining the system classification of roadways, this manual and FHWA's guidebook provides agencies with helpful tools that can make the classification process of categorizing "borderline" roadways a bit easier.

Partners in the Functional Classification Process

Whether processing a single functional classification change request or conducting a comprehensive statewide functional classification review, a variety of planning partners should be involved to ensure informed consent of the functional classification designed for roadways.

Communication shall be conducted with the following partners:

- Metropolitan Planning Organizations (MPOs)
- ITD Regional and District Offices
- County and Other Agencies – such as cities, rural transportation planning organizations, regional development commissions, councils of government, etc.

Geographic Information Systems (GIS)

Today's geospatial technologies allow this data to be easily "viewed" in the context of a spatially accurate map display. Therefore, it is important that the linearly referenced tabular data, when integrated into traditionally separated databases, be dynamically segmented on a routed roadway network and be spatially correct.

This inventory contains the current functional classification of all roadways and annual average daily traffic volume (AADT) estimates to calculate daily vehicle miles of travel (VMT)[2]. ITD identifies new roadways and roadway improvements within the State Transportation Program

[2] Vehicle miles of travel can be calculated as: DVMT = length in miles * annual average daily traffic volume.

(STIP) which maintains basic information such as mileage, functional classification, lanes and traffic forecasts in a Linear Referencing System (LRS)/GIS format. A variety of the other GIS data can be useful in the function classification evaluation process – this includes land use, major traffic generators and digital ortho-photography.

3.4 Procedural Tasks

This subsection outlines a series of recommended technical and procedural steps to review the functional classification of a roadway network. These tasks should be conducted through the collaborative effort between the planning partners listed in the previous subsection. In an ideal setting, roadway networks should be assessed whether its roadways are properly classified on a continuous basis. Because new roads and major land development projects take years of advance planning; MPOs, ITD regional and district offices, counties and other agencies should anticipate and respond to functional class adjustments in tandem with development activity. Additionally,the entire network or roadways should be reviewed after the development of the adjusted urban boundaries.

Table 3.2: Timeframe for Statewide Functional Classification Updates in Months

High-Level Tasks	Month																								
	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
1. Mobilize the Functional Classification Update Process																								
1a. Establish FC Review Team	■	■																						
1b. Generate data, maps, etc. for use by local planning partners		■	■																					
1c. Contact local planning partners		■	■																					
2. Work with Local Planning Partners in Functional Classification Review Process																								
2a. Deliver data and documents to local planning partners and begin review process				■	■	■	■	■	■	■	■	■	■	■	■	■	■							
3. Make Functional Classification Changes																								
3a. Gather, review and incorporate all proposed changes									■	■	■	■	■	■	■	■	■	■	■					
4. Reviews, Recommendations and Approvals																								
4a. Submit draft FC network information to FC Review Team																	■	■	■					
4b. Submit draft FC network information to ITD Board (SHS Only)																			■	■				
4c. Submit draft FC network information to FHWA																					■	■		
5. Finalize																								
5a. Incorporate FC changes into Enterprise Systems																						■	■	■
5b. Distribute approved maps and data to planning partners																								■

Even for the most challenging of circumstances, the process of official review and submittal of the updated functional classification system can take less than 36 months to complete from the time of FHWA approval of the adjusted urban boundaries.

ITD staff and the planning partners should re-evaluate the functional classification of the road system at least every 10 years, coinciding with the decennial census. However, in the interim of the decennial census release triggering the statewide urban boundaries and functional classification updates, as roadways are newly constructed or functionalities change, proposed changes are submitted and reviewed on a case-by-case basis.

The following list presents, in detail, the review process with a 24-month completion timeframe displayed in Table 3.2, following approval of the adjusted urban boundaries.

1. **Mobilize the Functional Classification Update Process**
   a. ***Form a team to specifically guide the functional classification review and update process.*** ITD's Division of Engineering Services shall establish a functional classification review team (FCRT) composed of State and regional planners that have a vested interested in the final delineation of the functional classification designations. Individuals with experience in Federal transportation funding, highway design, traffic operations and the metropolitan transportation planning process should have a seat on the committee. This review team shall be responsible for reviewing proposed changes to the functional classification network from local planning partners. This review team shall consist of State and District transportation planners, HQ GIS analyst, District GIS analysts, Roadway Data and HPMS staff member.
   b. ***Generate data, maps, etc. for use by local planning partners.*** The FCRT will incorporate approved adjusted urban boundaries in the enterprise GIS system and produce functional classification maps and shapefiles.
   c. ***Contact local planning partners.*** The FCRT shall contact the district transportation planners and district GIS analyst with a formal announcement stating the task at hand. District staff shall contact the local planning partners to inform them of the task at hand and request their participation. MPO staff shall be key partners, and other regional planning agencies, counties and/or local municipalities shall be consulted as necessary. ITDDistrict staff is responsible for initiating, reviewing, collecting and incorporating all proposed changes within their districts.

      Note: Any and all proposed changes shall come from the review and request of the local agencies, MPOs and/or district offices; ITD headquarters shall serve as assistance between said applicant and FHWA.

2. **Work with Local Planning Partners in the Functional Classification Review Process.**
    a. ***Deliver data and documents to local planning partners and begin review process.*** District planners and will work with the local planning partners to ensure that the functional classification review and update process meets their expectations. In urban areas, close collaboration with MPOs is extremely important. Regional workshops hosted by the MPOs can be valuable in ensuring that there is a common understanding of the process and the schedule for delivery. While the exact details surrounding information may vary from district to district, the local planning partners are generally expected to review the current functional classification network, in the context of the newly revised adjusted urban boundaries, and submit a set of proposed changes to the functional classification of roadways in their area. Whether a large or minimal number of changes, sufficient explanation shall be provided to justify each recommended functional classification change. Keep in mind, in many areas, proposed functional classification changes require formal MPO approval.

3. **Making Functional Classification Changes**
    a. ***Gather, review and incorporate all proposed changes.*** The district planners, with the assistance of the district GIS analyst, must review a local or regional transportation agency's proposed changes to ensure that they are reasonable. Special attention shall be paid to the consistency of classifications at regional boundaries, overall routes continuity, spacing and mileage and DVMT percentage guidelines. In addition, district planners shall coordinate with neighboring States to ensure consistency at State boundaries. If possible, potential system-wide changes should be made in a "test" environment to avoid affecting the official enterprise system during the analysis proposed changes. Follow-up meetings may be necessary to resolve issues discovered.

4. **Reviews, Recommendations and Approvals**
    a. ***The District shall submit draft functional classification information to the Functional Classification Review Team.*** The FCRT will review the proposed changes to ensure that they are reasonable and assist in any follow-up meetings, if necessary, to resolve anyissues. Upon determination of compliance, the FCRT will forward the recommendation to the appropriate party.
    b. ***If applicable, submit draft functional classification network information to Idaho Transportation Board only to changes on the State Highway System.*** Once the FCRT has successfully reviewed and concurred with all recommended functional classification changes to the State Highway System, the FCRT shall submit a draft SHS functional classification network before the Idaho Transportation Board for their review and recommendation to the Federal Highways Administration Division Office.

Note: Board Policy requires an annual update of any proposed changes to the State Highway System Functional Classification Map, if any, every May.

c. ***Submit draft functional classification network information to FHWA for all proposed changes.*** Once the FCRT has successfully reviewed and concurred with all recommended functional classification changes, it should submit the final draft functional classification network to the FHWA Division Office for final approval. The specific geospatial format of data delivery shall be worked out between the FCRT and the FHWA Division. Separately, hard copy maps at a scale sufficiently small enough to evaluate the functional classification network shall be provided. Should the Division Office have any issues with the proposed functional classification network, the FCRT, district staff and the affected local planning entities should meet to decide upon a mutually agreeable solution.

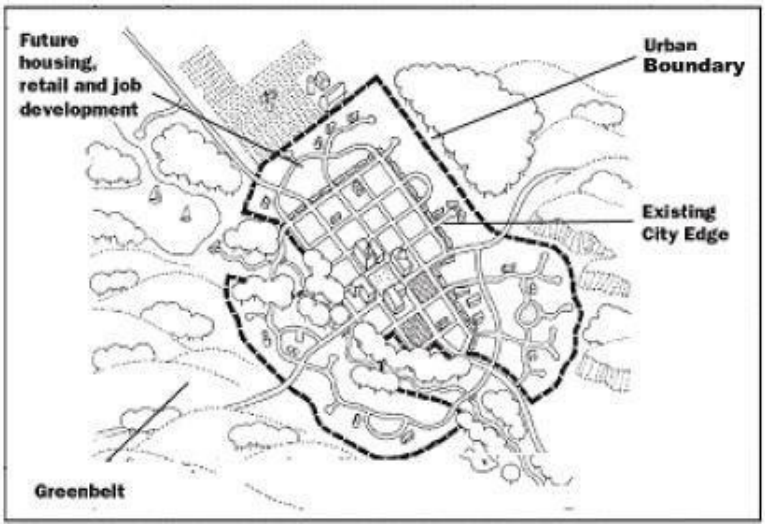
Note: Any changes to the National Highway System (NHS) will need to be coordinated within FHWA HQ Office of Planning, Environment and Realty. Approval of changes to the NHS happens in FHWA HQ, and the procedures for modification are detailed in 23 CFR 470.

5. Finalize

a. ***Incorporate Functional Classification Changes into Enterprise Systems.*** Once FHWA approval has been received, any proposed functional classification changes shall be made into the enterprise database systems that house the official records of roadway functional classification. The updated GIS functional classification changes need to be incorporated into the functional classification layer and subjected to ITD's GIS quality control checks with the metadata for the layer updated. These functional classification changes shall be forward to FHWA for inclusion into the HEPGIS database and be incorporated into the June 15th HPMS data transmittal.

b. ***Distribute approved maps and data to planning partners.*** The Division of Engineering Services shall provide a letter of completion with associated documents and data to inform the districts and local planning partners.

4.0 Urban Boundaries



For transportation purposes, Cities/Counties/MPOs have the option to use the census–defined urban boundaries exclusively or adjust the census-defined boundaries to be more consistent with transportation needs. ITD, in coordination with local planning partners, may adjust the urban boundary so fringe areas having *"…residential, commercial, industrial, and/or national defense significance"* be included; with FHWA having final decision on proposed boundary.

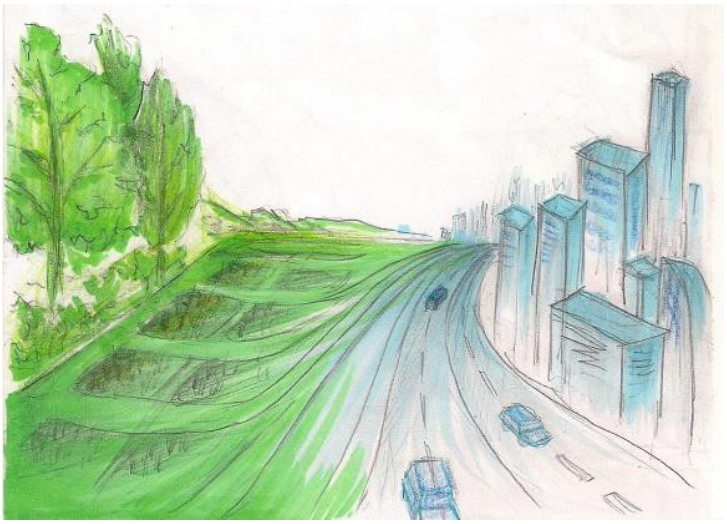
Reasons for adjusting urban boundaries (UB) for transportation planning purposes often relate to a need for consistency or geographic continuity; to provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and employment growth inside UBs, to ensure efficient use of land, and to provide for livable communities.

The following clearly defines the steps that a local planner must follow when changing UBs:

1. Coordinate with adjacent and nearby communities regarding the proposed boundary change.
2. Use a coordinated long-range forecast of the population and employment.
3. Conduct an inventory of the amount of buildable land already inside the boundary.
4. Show that a community has a need for more developable land in order to provide for a 20-year supply for housing, jobs, public facilities and open space.
5. Demonstrate what steps have been taken to ensure that urban land inside the UB will be developed efficiently. It is important to note that urban boundaries protect the rural character of Idaho's countryside, allowing farming to continue to be an important sector of Idaho's economy.

4.1 Defining Urban and Rural

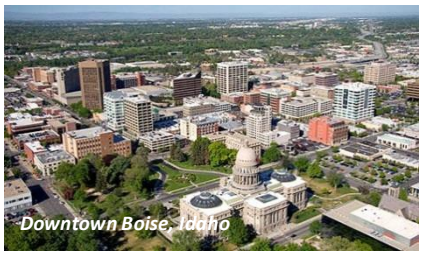
Urban and rural areas have fundamentally different characteristics as to density and types of land use, density of street and highway networks, nature of travel patterns, and the way in which all these elements are related in the definitions of highway function. Consequently, this manual provides for separate classification of urban and rural functional systems.



Communities with populations 4,999 or less are considered rural areas. Urban areas are defined in Federal-aid highway law (Section 101 of Title 23, U.S. Code) as follows: "Theterm 'urban area' means, an urbanized area or, in the case of the urbanized area encompassing more than one State, that part of the urbanized area, within boundaries tobe fixed by the place designated by the Bureau of the Census." For clarity and simplicity, this reference manual will use the following terminology, which is consistent with the above definition.

The U.S. Census Bureau defines an urban area as an area that comprises a "densely settled core of census tracts and/or census blocks that meet minimum population density requirements, along with adjacent territory containing non-residential urban land uses as well as territory with low population density included to link outlying densely settled territory with the densely settled core.

For classification purposes, the Census Bureau identifies two (2) types of urban areas, one differing from ITD and FHWA's definitions, the *Urban Clusters* (UCs) class. An *Urban Cluster* ranges from 2,500 to 49,999 people; however, in Idaho areas of population greater than 5,000 people qualify as urban. Therefore, urban areas ranging from 5,000 to 49,999 people will fall under the *Small Urban Areas* class. With that being said, the second type the Census Bureau identifies is the *Urbanized Areas* class, and is recognized by ITD, however, the term used by ITD is the *Large Urban* class; a class with a population of 50,000 or more people and most usually within an established metropolitan planning organization. *Transportation Management Areas* are also considered under the urban boundary classification. For *Transportation Management Areas*, the population must reach 250,000 or more.



Downtown Boise, Idaho

Table 4.1: ITD & FHWA Urban Area Types Defined by Population Range		
Area Definition	**Population Range**	**Allowed Urban Area Boundary Adjustment**
Rural Areas	0 – 4,999	N/A
Small Urban Areas	5,000 – 49,999	Yes
Large Urban Areas	50,000+	Yes
Transportation Management Areas*	250,000+	Yes

**Transportation Management Areas (TMA) are all urbanized areas (UZA) with a population greater than 200,000. (https://www.federalregister.gov/documents/2023/06/05/2023-11810/designation-of-transportation-management-areas)*

Federal transportation legislation allows for the outward adjustment of Census Bureau defined urban boundaries (of population 5,000 and above) as the basis for development adjusted urban boundaries for transportation planning purposes, through the cooperative efforts of state andlocal officials. However, these adjusted boundaries must encompass the entire census-designated urban area (of 5,000+ populations) and are subject to approval by the Federal Highways Administration (23 USC 101(a) (36) – (37) and 49 USC 5302(a) (16) – (17)).

During the time between the release of the Census Bureau boundaries and the formal approval of the new adjusted boundaries, the previously developed and approved adjusted urban boundaries remain in effect. If ITD or local planning agencies choose not to adjust the urban boundaries (or is otherwise unable to do so within two years of the release of the Census Bureau boundaries), the most recent unadjusted census boundaries will take effect, and the appropriate modifications to the roadway database will need to be made to reflect the new urban/rural boundaries. This could cause a roadway previously considered to be urban to now be considered rural, which may affect Federal-aid funding eligibility.

4.2 Relationship to Functional Classification

While the urban/rural designation is independent of functional classification, it is important to recognize that the adjusted urban area boundary is a significant factor in determining the functional classification of a road in an urban/rural context.

Recent changes to policy have normalized the concepts of urban boundaries and functional classification to improve consistency. In the roadway database, the combined classification of a given roadway will now come from two separate attributes – functional system and area type. This change in policy provides an opportunity to clarify how functional classifications at the boundaries of urban/rural areas should be treated. The previous practice of automatically

assigning urban classification to a route that crosses into an adjusted urban boundary can be phased out and eliminated.

Special attention must be paid to locations at which roadways and boundaries are in close proximity. The adjusted urban boundary should be designed to eliminate or minimize a roadway's snaking in and out of the boundary. Roadways that define a boundary should be considered consistently urban or rural, and strongly recommended these roadways be carefully evaluated before they are included in or out of the adjusted boundary.

4.3 Adjusted Urban Boundaries – Technical Tasks

The first step in defining an adjusted UB is to obtain the census urban area geospatial boundary files from the Census Bureau. These files are available at the following locations:

- https://hepgis-usdot.hub.arcgis.com/
- www.census.gov in a variety of GIS-compatible formats

- Historical cartographic boundary files from previous censuses are available for download at: https://www.census.gov/geographies/mapping-files/time-series/geo/cartographic-boundary.html Potentially useful GIS layers in addition to the editable GIS data collected from the Census Bureauwhen determining an area's appropriate UB include:
  - Land use, including areas of recent growth
  - Roadway network
  - Railroads
  - Transit routes
  - Ports (e.g., airports, seaports)
  - Military installations
  - Other significant traffic generators
  - Hydrography
  - Municipal boundaries (i.e., incorporated areas)
  - Digital ortho-photography

Consideration Factors for Adjusting UB

When adjusting the urban boundary, a variety of factors should be considered. The list below describes these factors; reference FHWA's 2023 Edition guidebook for examples:

- The adjustment of the UB will encompass the entire urban area (of population 5,000 or greater) as designed by the Census Bureau;
- The adjusted UB will be one, single contiguous area;
- The adjusted UB may seek to extended its limits beyond the census urban area to include entire municipalities (such as incorporated areas) if the municipality is likely to become part of the urban area in the next decade (**Note:** This situation may arise when a city has annexed a narrow buffered area along a roadway that extends for several miles outside of the urban area or has a very aggressive annexation policy. In these situations, the urban area should not be extended to include the annexed territory.);
- The adjusted UB should encompass areas outside of municipal boundaries that have urban characteristics with residential, commercial, industrial or national defense land uses that are consistent with or related to development patterns with the boundary;
- The adjusted UB should encompass all large traffic generators that are within a reasonable distance from the urban area (e.g., fringe area public parks, large places of assembly, large industrial plants, etc.);
- The adjusted UB should include areas of rapidly developing urbanization that lie within a reasonable distance from the urban area. A review of local and regional plans should be conducted so that the boundary reflects expectations for the upcoming decade (i.e., until the next census urban area boundary release), accounting for anticipated development, roadway construction and city annexations.
- The adjusted UB should include transportation terminals and their access roads, if such terminals lie within a reasonable distance of the urban area (e.g., airports, seaports);
- The adjusted UB should consider transit service routes (e.g., bus routes, passenger rail line) in the placement of a boundary location. However, their inclusion should not unduly distort the shape or composition of the original census-defined urban area boundary;
- The adjusted UB should be defined so that its physical location is easy to discern in the field form data shown on the map. Whenever possible, if the boundary is going to deviate from political jurisdictional boundaries, it should follow physical after the adjusted features (e.g., rivers, streams, irrigation canals, transmission lines, railroads, streets or highways). In instances where physical features are lacking, the boundary should cross at roadway intersections which are readily identifiable in the field; and

- UB has been identified using all the factors previously listed, remaining boundary irregularities should be minimized to avoid the confusion that irregular boundaries can create (i.e., smooth out the boundaries).

Additional key consideration factors include:

- Adjusted UB should be defined so that confusion or ambiguity is minimized; for example, a boundary should never be drawn in the middle of a divided highway. The divided highway should either be completely in or completely out of the urban boundary area;
- In instances where a roadway defines the boundary between two urban areas, the roadway shall be clearly assigned to the urban area it primarily serves. If the roadway serves each urban area equally, a business role should be developed that assigns the roadway appropriately;
- If access-controlled roadways are used to define the adjusted urban area boundary, all ramps and interchanges shall be either included or excluded concerning the adjusted urbanarea boundary and interchanges shall not be divided by the boundary; and
- For coastal areas or areas with large lakes, if the intent of the adjusted urban boundaries is to be reflective of the shoreline, then the generally accepted coastal/lake boundaries most commonly used for geospatial processes, such as spatial analysis or map-making, shall be used.

4.4 Adjusted Urban Boundaries – Adjustment Schedule

If local partners choose to adjust the urban boundaries, then they must be reviewed, at minimum, in conjunction with the census urban area boundary release.[3] Any adjustment to an area's urban boundary is encouraged to be completed within one or two years of the release of the census urban area GIS datasets; however, urban boundaries can be revisited for adjustment at any time throughout the year should a reason arise. During the process, the appropriate local government entity will collaborate with ITD who will be considered the authority and take on an active leadership role.

Risk Factors to Urban Boundary Adjustment Schedule

There are several risk factors that could potentially arise and impact on the amount of time it takes tocomplete the adjustment process; a carefully planned approach for addressing these risk factors should be developed:

- A large number of urban areas adjusting

[3] Although there is no specific policy on how often adjustments to urban boundaries can be made, local partners are encouraged to make such adjustments as infrequently as possible and only when deemed absolutely necessary.

- Newly created urban areas
- Merging of previously separated urban areas
- Urban areas that cross State boundaries
- A large number of local planning partners with which to coordinate
- Inconsistency in the application of adjustment criteria
- Lack of active engagement by local planning partners
- Lack of state resources to complete the process in a timely fashion

Table 4.2: Timeframe for a Statewide Adjusted Urban Boundary Update

High-Level Tasks	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
1. Mobilize the Adjusted Urban Boundary Update Process												
1a. Obtain Urban Boundaries from U.S. Census	■											
1b. Establish Adjusted Urban Boundary Review Team (UBRT)	■	■										
1c. Generate data, maps, etc. for use by local planning partners		■	■									
1d. Contact local planning partners		■	■									
2. Work with Local Planning Partners in Adjusted Urban Boundary Review Process												
2a. Deliver data and documents to local planning partners and begin review process				■	■	■	■	■	■			
3. Make Adjusted Urban Boundary Changes												
3a. Gather, review and incorporate all proposed changes						■	■	■	■			
4. Reviews, Recommendation and Approvals												
4a. Submit draft adjusted urban boundary information to UBRT									■	■		
4b. Submit draft adjusted urban boundary information to FHWA										■	■	
5. Finalize												
5a. Incorporate adjusted urban boundary changes into enterprise systems											■	■
5b. Distribute approved maps and data to planning partners												■

The following list presents, in detail, the review process with a 12-month completion timeframe displayed in Table 4.2.

1. **Mobilize the Urban Boundary Adjustment Process**
   a. ***Acquire newly developed urban boundaries from U.S. Census.*** Obtain the latest decennial census urban boundaries from the Census Bureau.
   b. ***Form a team to guide the urban boundary update process.*** ITD's Division of Engineering Services shall establish a Urban Boundary Review Team (UBRT) composed of State and regional transportation planners that have a vested interest in the final delineation of the boundaries. Individuals with experience in Federal transportation funding, highway design, traffic operations and metropolitan transportation planning process, should have a seat on the committee. This review team shall be responsible for reviewing proposed changes to the urban boundaries network from the local planning partners. This review team shall consist of State and district transportation planners, HQ GIS analyst, district analyst, Roadway Data and HPMS staff members.
   c. ***Generate data, maps, etc. for use by local planning partners.*** The UBRT will incorporate urban boundaries from the census in the enterprise GIS system, produce data and shapefiles.
   d. ***Contact local planning partners.*** The UBRT shall contact the district transportation planners and GIS analysts with a formal announcement stating the task at hand. The district staff shall contact the local planning partners to inform them of the time of the task at hand and request their participation. For large urban areas contained and/or very proximate to metropolitan planning areas, the MPO shall be a key partner. For small urban areas, regional planning agencies, counties and/or local municipalities shall be consulted. However, for many of these urban areas, additional effort may be required to properly engage these partners. In these instances, it is appropriate for district staff to make adjustments in these areas. Finally in some instances, regional transit service providers shall also be consulted to understand their short-term routing plan. ITD district staff is responsible for initiating, reviewing, collecting and incorporating all proposed changes within their district during their discussions.
2. **Work with Local Planning Partners in the Adjusted Urban Boundary Update Process.**
   a. ***Deliver data and documents to local planning partners and begin review process.*** District staff shall share the original decennial census-based urban boundary maps and/or GIS data (including both Large Urban Areas and Small Urban Areas) with and will work with the local planning partners to ensure that the urban boundary review and update process meets their expectations. This transmittal shall include specific instructions in terms of data formats, spatial accuracy, update processes and expected completion dates, as well as a copy of this document and FHWA's guidebook. Close collaboration with MPOs is extremely important.

Regional workshops hosted by the MPOs can be valuable in ensuring that there is a common understanding of the process and the schedule. While the exact details surrounding information may vary from district to district, the expectation is that the local planning partners will review the US census urban boundaries in the context ofthe existing adjusted urban boundaries (based upon previous census) and determine the extent to which the boundaries should be adjusted for transportation planning purposes. The local planning partners shall submit a set of proposed adjustments to the current US Census urban boundaries in their area to their ITD district staff.

3. **Make Adjusted Urban Boundary Changes**
   a. ***Gather, review and incorporated all proposed changes.*** The district staff must review the local or regional transportation agency's proposed adjustments to ensure that they are reasonable. At the very least, ensure that no territory considered urban by the Census Bureau be left out of the adjusted urban boundary. In addition, the district staff shall review all proposed adjusted urban boundaries paying particular attention to locations where the adjusted urban boundaries are co-located with another feature such as a roadway, a municipal boundary or a hydrographic feature. Follow-up meetings may be necessary to resolve issues discovered.
4. **Review, Recommendation and Approvals**
   a. ***District staff shall submit draft adjusted urban boundary information to Urban Boundary Review Team.*** THE UBRT shall review the proposed changes to ensure they are reasonable and compile with the recommended guidelines within this document. The UBRT shall assist in any follow-up meetings, if necessary, to resolve any issues. Upon determination of compliance, the UBRT shall forward a recommendation to FHWA Division Office.
   b. ***Submit draft adjusted urban boundary information to FHWA Division Office.*** Once the UBRT has successfully reviewed and concurred with all recommended adjusted urban boundaries, the Division of Engineering Services shall submit the draft final adjusted urban boundaries to FHWA Division Office for final approval. The specific geospatial format of data delivery shall be worked out between the UBRT and the FHWA Division. Should the Division Office have any issues with the proposed functional classification network, the UBRT, district staff and the affected local planning entities should meet to decide upon a mutually agreeable solution.
5. **Finalize**
   a. ***Incorporate adjusted urban boundary changes into enterprise systems.*** Once FHWA approves the adjusted urban boundaries, any proposed changes shall be made in the enterprise database systems. The updated GIS adjusted urban boundaries shall be

incorporated into the master urban boundary layer and subjected to ITD's GIS quality control checks with the metadata for the layer updated.

b. ***Distribute approved urban boundary data to planning partners.*** The Division of Engineering Services shall provide a letter of completion with associated documents and data to inform the districts and local planning partners the updating process is complete.

5.0 References and Graphic Sources

CDM Smith

Federal Highways Association (FHWA)

Federal Register

Institute of Transportation Engineers

Local Highway Technical Assistance Council (LHTAC)

Maine DOT

Massachusetts DOT

Oregon DOT

Smart Transportation Guidebook

US Census

Wikipedia

Appendix A

Idaho Functional Classification/Urban Boundary Change Request Form

IDAHO FUNCTIONAL CLASSIFICATION / URBAN BOUNDARY CHANGE REQUEST FORM

PLEASE INDICATE: ☐ ITD District Request ☐ Local Agency Request

This form has been developed for use in all requests for Idaho's Functional Classification and/or Urban Boundary changes/modifications. One form must be completed and submitted for each change.

AGENCY CONTACT INFORMATION

Agency Name:	**Application Date:**
Contact Person and E-mail Address:	**Telephone Number:**
Agency Address:	

Is this functional classification request/change completely within or partially within an Urbanized Area?

☐ No ☐ Yes – If yes, concurrence from the MPO is required. Please complete the following information.

Please indicate the name of the metropolitan planning organization (MPO):

MPO Contact Person and E-mail Address:	**Telephone Number:**
MPO Address:	

Does the requested Functional Class change extend into another jurisdiction?

☐ No ☐ Yes – If yes, a concurrence letter or resolution is required from the other jurisdiction.

Please indicate the name of the other jurisdiction:

ROUTE DESCRIPTION

Local Name of Route:	**Route Number:**
Route Description:	
Termini of Route *(Milepost (MP) – if available)* **From MP:** **To MP:**	**Length *(miles)*:**

Existing Federal Functional Classification (choose only one):	**Proposed Federal Functional Classification (choose only one):**
☐ Interstate ☐ Principal Arterial ☐ Minor Arterial	☐ Interstate ☐ Principal Arterial ☐ Minor Arterial
☐ Major Collector ☐ Minor Collector ☐ Local Road	☐ Major Collector ☐ Minor Collector ☐ Local Road

IDAHO FUNCTIONAL CLASSIFICATION / URBAN BOUNDARY CHANGE REQUEST FORM

URBAN BOUNDARY DESCRIPTION

Population (Census):

Brief explanation for proposed changes:

Census Boundary Square Foot:	**Proposed Boundary Square Foot:**
Existing Urban Boundary Classification (choose only one): ☐ Rural Areas 0 – 4,999 ☐ Small Urban Areas 5,000 - 49,000 ☐ Urbanized Areas 50,000+ ☐ Metropolitan Statistical Areas 250,000+	Proposed Urban Boundary Classification (choose only one): ☐ Rural Areas 0 – 4,999 ☐ Small Urban Areas 5,000 - 49,000 ☐ Urbanized Areas 50,000+ ☐ Metropolitan Statistical Areas 250,000+

REMARKS

Written Description of FC route *(general characteristics including alignment, speed limit and how it relates to the surrounding area in terms of importance)*:

A brief description of why the proposed change is requested and justification for the change:

Additional remarks to fully explain the change request:

IDAHO FUNCTIONAL CLASSIFICATION / URBAN BOUNDARY CHANGE REQUEST FORM

IDAHO CHANGE REQUEST SUBMITTAL CHECKLIST *(include with this request form)*:

- ☐ Change Request Form
- ☐ A Vicinity Map showing the proposed changes and existing Route Classifications (Route owner must approve)
- ☐ Original letter of approval from Mayor, Chairman of the Board or other official responsible for the agency or a City/County Resolution adopted. If the request crosses jurisdictional boundaries, a letter of recommendation or City/County Resolution is required from all agencies whichhave authority over the road.
- ☐ Proof of Public Hearing *(if one was held)*
- ☐ MPO concurrence letter *(if within an Urbanized Area)*
- ☐ GIS Shapefile (If available)

Submit all the above to the Idaho Transportation Department District in your area. If you have questions or need additional information, you may e-mail FunctionalClass@itd.idaho.gov.

For ITD District Use Only:

ITD District ☐ D1 ☐ D2 ☐ D3 ☐ D4 ☐ D5 ☐ D6	**Date Application Received:**
District Contact Person and E-mail Address:	**Telephone Number:**
District Application Recommendation to Planning Services: ☐ **Approval Request because:** ☐ **Deny Request because:**	

For ITD Planning Services Use Only:

ITD Recommendation to FHWA: ☐ **Approval Request because:** ☐ **Deny Request because:**

IDAHO FUNCTIONAL CLASSIFICATION / URBAN BOUNDARY CHANGE REQUEST FORM

IMPORTANT CONTACT INFORMATION		
CONTACT	**OFFICE NUMBER**	**FAX NUMBER**
Local Highway Technical AssistanceCouncil (LHTAC)	(208) 334-0565	(208) 344-0789
ITD HQ Planning Services	Scott Luekenga (208) 334-8057 Brianna Fernandez (208) 334-8176	N/A
ITD District One	(208) 772-1200	(208) 772-1203
ITD District Two	(208) 799-5090	(208) 799-4301
ITD District Three	(208) 334-8300	(208) 334-8917
ITD District Four	(208) 886-7800	(208) 886-7895
ITD District Five	(208) 239-3300	(208) 239-3367
ITD District Six	(208) 745-7781	(208) 745-8735
Bannock Transportation Planning Org. (BTPO)	(208) 233-9322	(866) 230-4709
Bonneville Metropolitan PlanningOrg. (BMPO)	(208) 612-8530	N/A
Community Planning Association of Southwest Idaho (COMPASS)	(208) 855-2558	(208) 855-2559
Kootenai Metropolitan Planning Org. (KMPO)	(208) 930-4164	N/A
Lewis-Clark Valley Metropolitan PlanningOrg. (LCVMPO)	(208) 298-1345	N/A
Magic Valley Metropolitan PlanningOrg. (MVMPO)	(208) 933-2015	N/A

Idaho Transportation Department

P.O. Box
7129 Boise, ID
83707(208)
334-8000
www.itd.idaho.gov

July 2025